

**REMARKS**

In the present Amendment, claim 1 has been amended to incorporate the subject matter of claim 2. Claim 2 has been cancelled. Claims 5 and 6 have been amended to depend from claim 1. No new matter has been added. Entry of the Amendment constituting a combination of existing claims is respectfully requested as placing the case in condition for allowance.

Upon entry of the Amendment, claims 1 and 4-11 will be pending.

Claim 2 was objected to for failing to further limit the subject matter of a previous claim.

As noted, the subject matter of claim 2 has been incorporated into claim 1. Claim 2 has been cancelled, rendering this objection moot.

Claims 1-2, 4-8 and 10-11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamaguchi et al (US 6,472,019 B1) in view of Di Giaimo (US 3,496,134).

Applicants submit that this rejection should be withdrawn because Yamaguchi et al and Di Giaimo do not disclose or render obvious the aqueous water- and oil-repellent dispersion or the textile or the method of treating a textile of the present invention, either alone or in combination.

Claim 1 as amended relates to an aqueous water- and oil-repellent dispersion comprising:

(I) a copolymer comprising a polymerizable compound having a perfluoroalkyl or perfluoroalkenyl group and an acrylate group, methacrylate group or alpha-substituted acrylate group, a chlorine-containing polymerizable compound, and, optionally present, another copolymerizable compound copolymerizable with the foregoing monomers, and

(II) a hydrochloric acid-trapping compound which is a combination of (a) at least one epoxy compound selected from the group consisting of an epoxidized vegetable oil and an epoxidized fatty acid ester with (b) at least one weakly basic compound.

Yamaguchi et al was cited as disclosing an aqueous water- and oil-repellent dispersion and treated textile which allegedly meet the terms of the present claims, except for the claimed hydrochloric acid-trapping compound component of the dispersion.

Di Giaimo was cited as teaching that sensitivity of polyvinyl chloride (a halogen-containing polymer) to light and heat may be addressed by the addition of conventional heat or light stabilizers including sodium carbonate and an organic epoxy hydrochlorophyl such as epoxidized soybean oil (col. 2, line 56 to col. 3, line 3). The reason for rejection was that it would have been obvious to add a heat or light stabilizer to halogen-containing polymers so as to prevent degradation due to sensitivity of polyvinyl chloride to light.

However, Di Giaimo does not teach or suggest the specific combination of “(a) an epoxy compound selected from the group consisting of an epoxidized vegetable oil and an epoxidized fatty acid ester with (b) at least one weakly basic compound” recited in claim 1 as amended. Namely, although Di Giaimo discloses that inorganic compounds such as sodium carbonate, organo-tin compounds, certain cadmium or barium salts of organic acids and epoxy type acid acceptors such as epoxidized soybean oil are useful as heat stabilizers, there is no teaching in Di Giaimo of the specifically claimed combination, let alone any disclosure of combined use of heat stabilizers from among the various types described by Di Giaimo. Moreover, the

unexpectedly superior effect of the claimed combination is shown below by reference to the working examples presented in the specification.

From yet another aspect, Di Giaimo relates to a vinyl chloride polymer. The aqueous dispersion of the vinyl chloride polymer has a dispersion property different from the dispersion property of the fluorine-containing polymer employed in the present invention. Even if a certain material can give sufficient dispersion property to an aqueous dispersion of vinyl chloride polymer, said material does not necessarily give sufficient dispersion property to an aqueous dispersion of fluorine-containing polymer. The epoxidized vegetable oil and the epoxidized fatty acid ester can give sufficient dispersion property to the aqueous dispersion of fluorine-containing polymer.

As shown by Comparative Example 1, in which no chlorine-containing polymerizable compound, no epoxy compound and no weakly basic compound were employed, the water repellency and oil repellency of the dispersion are poor. See Table 1 at page 25 of the specification.

As shown in Examples 11 and 12, in which only one of epoxidized soybean oil and sodium hydrogen carbonate were employed, respectively, the water repellency and oil repellency of the dispersion after one month at 50 °C are inferior in comparison with those Examples (such as Examples 1, 2, 5, 6 and 8 in which the chlorine-containing polymerizable compound also was vinyl chloride) where both an epoxy compound (epoxidized soybean oil or linseed oil) and a weakly basic compound (sodium hydrogen carbonate) were employed.

Relevant portions of the test data presented in Table 1 at page 25 of the specification are reproduced below.

Table 1

	Chlorine-containing polymerizable compound	Epoxy compound	Weakly basic compound	After one month at 50°C	
				HL-3 Water repellency	HL-3 Oil-repellency
Ex. 1	Vinyl chloride	Epoxidized soybean oil	Sodium hydrogen carbonate	5	4
Ex. 2	Vinyl chloride	Epoxidized linseed oil	Sodium hydrogen carbonate	5	4
Ex. 5	Vinyl chloride	Epoxidized soybean oil	Sodium hydrogen carbonate	5	4
Ex. 6	Vinyl chloride	Epoxidized linseed oil	Sodium hydrogen carbonate	5	4
Ex. 11	Vinyl chloride	Epoxidized soybean oil		4	3
Ex. 12	Vinyl chloride		Sodium hydrogen carbonate	4	3

The above-noted results are unexpected superior over the prior art relied upon by the Examiner.

For the above reasons, it is respectfully submitted that the present invention is not obvious over Yamaguchi et al in view of Di Giaimo, and withdrawal of the foregoing § 103(a) rejection is respectfully requested.

Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamaguchi et al in view of Di Giaimo and further in view of Snyder (US 3,617,188).

Claim 9 is patentable over Yamaguchi et al in view of Di Giaimo, and further in view of Snyder, for at least the same reasons that claims 1 and 8 are patentable over the cited references.

SECOND AMENDMENT UNDER 37 C.F.R. § 1.116  
Application No.: 10/579,216

Attorney Docket No.: Q94896

Allowance is respectfully requested. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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**23373**

CUSTOMER NUMBER

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